

OMRO

OMRON's Mainstay FA Network Controller Link

- CS-series Wired Controller Link Units: CS1W-CLK21-V1 Unit Ver. 1.2
- CS-series H-PCF Optical Ring Controller Link Units: CS1W-CLK12-V1 Unit Ver. 1.2
- CS-series GI Optical Ring Controller Link Units: CS1W-CLK52-V1 Unit Ver. 1.2
- CJ-series Wired Controller Link Units: CJ1W-CLK21-V1 Unit Ver. 1.2



Controller Link provides larger-capacity data links, greater

flexibility in area control, and supports multiple sub-networks.

The data link capacity is 20,000 words per node. Allocate both Data Link Area 1 and Area 2 in the same area. Connect up to 8 Units under a single CPU Unit.



enables more data to be collected from each device.



H-PCF Optical Ring Unit

send/receive data link words (total of Area 1 and Area 2) for a single node. This



GI Optical Ring Unit CS1W-CLK52-V1



CJ1W-CLK21-V1 Unit Ver. 1.2

Huge increase in amount of data that can be collected from devices.

Number of data link send/receive words (total of Area 1 and Area 2) for a single Controller Link Unit increased from 12,000 to 20,000 words.



The same area can be used for the Data Link Areas. For example, Data Link Areas 1 and 2 can be both allocated and managed in EM Bank 0.



Area 1 and Area 2 had to be allocated in separate areas for user-set data links. Therefore, allocating all data links in the EM Area was not possible.

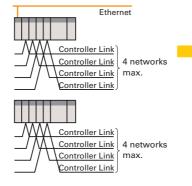
12,000 words per node (total send and receive words in

Area 1 and Area 2 for manually set data links) insufficient for many applications.

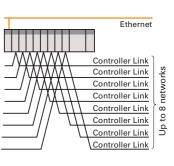
> New CS/CJ-series Controller Link Units (Wired/Optical Ring Units) enable both Areas 1 and 2 to be allocated in the same area when using user-set data links.

Control up to 8 Controller Link sub-networks as a group from the host network.

revious Units supported connection of up to four Controller Link Units to a single CPU Unit. Creating a gateway to the host network to control the Controller Links as a group of sub-networks required dividing the Units between two PLCs with a maximum of four networks for a single PLC.



New CS/CJ-series Controller Link Units (Wired/Optical Ring) enable connection of up to 8 Controller Link Units for each CPU Unit. This enables easy centralized control of a group of Controller Link sub-networks from the one PLC.



■ Main Specifications Related to Version Upgrade for Unit Ver. 1.2

Item		Unit Ver. 1.2 or later	Pre-Ver. 1.2	
Number of data link words		Number of send/receive words per Unit Total of Area 1 and Area 2: 20,000 words max.	Number of send/receive words per Unit Total of Area 1 and Area 2: 12,000 words max.	
		Number of send words per Unit Total of Area 1 and Area 2: 1,000 words max.		
Data Link Area allocations	User-set allocations	Areas 1 and 2: CIO Area (including data link words), DM Area, and EM Area		
		Both Area 1 and Area 2 can be allocated in the same area (provided there is no address duplication).	Both Area 1 and Area 2 cannot be allocated in the same area.	
	Automatically set equal allocations	Area 1: CIO Area (including data link words), Area 2: DM Area and EM Area		
	Automatically set 1:N allocations	Areas 1 and 2: CIO Area (including data link words), DM Area, and EM Area		
Maximum number of Controller Link Units connected to a single CPU Unit		8 Units max.	4 Units max.	

CX-Programmer Ver. 5.0 or higher is required to set a data link area with a maximum number of send and receive words of 20,000 words per Controller Unit, or to allocate the same area for Area 1 and Area 2.

The following functions are supported by Pre-Ver. 1.2 Controller Link Units

Use of Repeater Units to allow T-branching of Wired Units, longer cables, system expansion, and Optical links within the networl

T-branching provides more flexibility when wiring for original layout, upgrades, and expansions.

Wired Systems support longer distance wiring.

With 2-Mbps communications, a Wired System supports a total length of 500 m maximum, but the system can be extended to 1.5 km maximum by using 2 Repeater Units.

The maximum number of nodes in a Wired System has been increased to 62 nodes

When -V1 Controller Link Units/Support Boards are combined with a Repeater Unit, up to 62 nodes can be included in the network

Improve noise resistance with optical fiber cable.

With two Wire-to-Optical Repeater Units, it is possible to create a link with optical fiber cable only in areas where the noise sources are located.

Data links are easier and more flexible

Data link tables can be changed during operation.



Wire-to-Wire Unit CS1W-RPT01



Wire-to-Optical Unit for H-PCF Cable CS1W-RPT02



PCI Boards for Computers 3G8F7-CLK21-EV1 (Wired Unit) 3G8F7-CLK12-EV1 (H-PCF Optical Ring Unit)

3G8F7-CLK52-EV1 (GI Optical Ring Unit)

Wire-to-Optical for CS1W-RPT03

■ Standard Models

Unit name	Unit classification	Applicable PLC series	Transmission media	Model number	Remarks
Controller Link Unit	CPU Bus Unit	CS Series	Wired Unit	CS1W-CLK21-V1	Use CX-Programmer Ver. 5.0. Can be combined with earlier versions of Controller Link Units/Support Boards.
			H-PCF Optical Ring Unit	CS1W-CLK12-V1	
			GI Optical Ring Unit	CS1W-CLK52-V1	
		CJ Series	Wired Unit	CJ1W-CLK21-V1	
Controller Link Support Board	PCI Boards for Computers	_	Wired Unit	3G8F7-CLK21-(E)V1	
			H-PCF Optical Ring Unit	3G8F7-CLK12-(E)V1	
			GI Optical Ring Unit	3G8F7-CLK52-(E)V1	
Controller Link Repeater Unit	_	Not mounted in a PLC.	Wire-to-Wire Unit	CS1W-RPT01	The Repeater Unit can be used with a Wired Controller Link Unit (it cannot be used with Optical Units) and can be mounted to a DIN Track or mounted with screws.
	_		Wire-to-Optical Unit for H-PCF Cable	CS1W-RPT02	
	_		Wire-to-Optical for GI Cable	CS1W-RPT03	

CS1W-CLK12-V1 Controller Link Units with Ver. 1.2 were shipped from August 2004. CS1W-CLK21-V1, CJ1W-CLK21-V1, and CS1W-CLK52-V1 Controller Link Units with Ver. 1.2 were shipped from August 2004.

Warranty and Limitations of Liability

WARRANTY

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OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT,

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LIMITATIONS OF LIABILITY

LIMITATIONS OF LIBBILITY
OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS, OR
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In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Note: Do not use this document to operate the Unit.

Unit Versions

A "unit version" has been introduced to manage CS/CJseries Controller Link Units according to differences in functionality accompanying version upgrades. The unit version code is provided on the nameplate of the CS/CJ- $\,$ series Controller Link Units for which unit versions are being managed, as shown in the diagram on the right.



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Note: Specifications subject to change without notice.

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